

GPS 152



gps trackplotter

owner's manual and reference guide

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Preface

Congratulations on choosing one of the easiest-to-use fixed-mount GPS trackplotters available! The GARMIN GPS 152 utilizes the proven performance of GARMIN GPS to create an unsurpassed marine navigation system.

To get the most out of your new GARMIN unit, take the time to read this owner's manual and learn the operating procedures for your unit. This manual is divided into two parts for your convenience.

Part One introduces you to the GPS 152 and provides a Getting Started tour to familiarize you with the unit. This section provide the basic working knowledge necessary to use the unit to its fullest potential.

Part Two is divided into sections that provide detailed references to the advanced features and operations of the GPS 152. This allows you to concentrate on a specific topic quickly and look up detailed information about the GPS 152.

If you encounter a problem or just have a question, contact our Product Support Department at 913-397-8200 or 800-800-1020, Monday – Friday, 8:00 A.M. to 5:00 P.M. Central Time.

Customer Service Product Registration

Help us better support you by completing our online registration today! Have the serial number of your GPS 152 handy and connect to our web site (*www.garmin.com*). Look for the Product Registration link on the Home page. Also, be sure to record your serial number in the area provided on page iv of this manual.



NOTE: We invite you to register your GARMIN product purchase using our NEW online system. Many services provided by our new product registration system are now being automated and registering your purchase ensures you the best possible support from GARMIN.

Introduction

Preface and Registration

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FCC Compliance Statement



FCC Compliance

The GPS 152 complies with Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide more reasonable protection against harmful interference in a residential installation, and are more stringent than "outdoor" requirements.

Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or and experienced radio/TV technician for help.

The GPS 152 does not contain any user-serviceable parts. Repairs should only be made by an authorized GARMIN service center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and void your warranty and your authority to operated this device under Part 15 regulations.

Software License Agreement

BY USING THE GPS 152, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

GARMIN grants you a limited license to use the software embedded in this device (the "Software) in binary executable form in the normal operation of the product. Title, ownership rights and intellectual property rights in and to the Software remain in GARMIN.

You acknowledge that the Software is the property of GARMIN and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization and code of the Software are valuable trade secrets of GARMIN and that the Software in source code form remains a valuable trade secret of GARMIN. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer or reduce to human readable form the Software of any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America.

WARNING: The GPS system is operated by the United States government, which is solely responsible for its accuracy and maintenance. The system is subject to changes which could affect the accuracy and performance of all GPS equipment. Although the GARMIN GPS 152 is a precision electronic NAVigation AID (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.

CAUTION: Use the GPS 152 at your own risk. To reduce the risk of unsafe operation, carefully review and understand all aspects of this Owner's Manual—and thoroughly practice operation using the simulator mode prior to actual use. When in actual use, carefully compare indications from the GPS 152 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety, always resolve any discrepancies before continuing navigation.

CAUTION: It is the user's responsibility to use this product prudently. This product is intended to be used only as a navigational aid and must not be used for any purpose requiring precise measurement of direction, distance, location or topography.

Introduction

Software License Agreement/ Warnings and Cautions



Warranty and Serial Number

Serial Number

Use this area to record the serial number (8-digit number located on the bottom of the unit) in case it is lost, stolen, or needs service. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Sei	rial N	umbe	r:			
*						×



The GPS 152 is fastened shut with screws. Any attempt to open the case to change or modify the unit in any way will void your warranty and may result in permanent damage to the equipment.

LIMITED WARRANTY

This GARMIN product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, GARMIN will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL GARMIN BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

GARMIN retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, call your local GARMIN authorized dealer. Or call GARMIN Customer Service at one of the numbers listed on the inside front cover of this manual for shipping instructions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the <u>outside</u> of the package. The unit should be sent, freight charges prepaid, to any GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

Products sold through online auctions are not eligible for rebates or other special offers from GARMIN. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. GARMIN will not replace missing components from any package purchased through an online auction.

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Designed for detailed electronic trackplotting capability, the GARMIN GPS 152 is a powerful device that can give you the navigation information you need.

Precision Performance

- High-contrast, four-level gray, FSTN display with adjustable backlighting
- 12-channel parallel receiver tracks and uses up to 12 satellites for fast, accurate positioning
- Differential-Ready just add an optional GARMIN beacon receiver for better than 5-meter accuracy
- WAAS Capable receive signals from the additional set of WAAS (Wide Area Augmentation System) satellites to give you better accuracy
- Fully gasketed, high-impact plastic alloy case, waterproof to IEC 529-IPX-7 standards

Advanced Navigating and Plotting

- 500 alphanumeric waypoints with selectable icons and comments
- 20 reversible routes with up to 30 waypoints each
- Uploadable Points of Interest (POI) up to 1 Megabytes of data using GARMIN's MapSource™
 PC products
- Coordinates: Lat/Lon, UTM/UPS, Loran TD, plus 24 grids, including Maidenhead
- TracBack® feature which allows you to quickly retrace your track to a starting position
- Built-in simulator mode
- Tide information from over 3000 tide stations around the U.S. coastline, Alaska, Hawaii, western Canada and several Caribbean islands

Introduction

Capabilities

Packing List

Before installing and getting started with your unit, please check to see that your package includes the following items. If any parts are missing, please contact your GARMIN dealer immediately.

Standard Package:

- GPS 152 Unit
- GA 29 External Antenna and 30-ft. cable*
- Power/Data Cable
- Mount with 2 knobs
- Owner's Manual
- · Quick Reference Card
 - * Not included with package containing the internal antenna.

Optional Accessories:

- US A/C and PC Adapter: US version provides power and PC data connection at the same time.
- EURO A/C and PC Adapter: European version of A/C and PC Adapter
- UK A/C and PC Adapter: United Kingdom version of A/C and PC Adapter
- Cigarette Lighter Adapter
- · Protective Cover
- PC Interface Cable
- MapSource Points of Interest CD-ROM
- Beacon Receiver for differential corrections: GBR21 (E-Field Antenna), or GBR23 (H-Field Antenna)
- Internal Antenna, Bail Mount (International model only)
- 2nd Mounting Station

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"How To" Index



The list to the right is provided to help you quickly find some of the more important procedures you will use on your new GPS 152.

TO DO THIS:	SEE PAGE(S):
Access the Main Menu	16, 53
Adjust screen contrast and/or backlighting	6-7
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Zoom IN or OUT on the Map page.	

MENU Key

The MENU key displays a menu of options for the current page. Press twice to display the Main Menu.

POWER/BACKLIGHT/CONTRAST Key

The POWER/BACKLIGHT/CONTRAST key turns ON/OFF the unit and display illumination.

PAGE Key

The PAGE key selects the main pages in sequence and returns display from a submenu page.

NAV/MOB Key

The NAV/MOB key displays the Go To and Follow navigation menu. It also activates the MOB (Man OverBoard) function when pressed and held for more than one second.

ARROW KEYPAD

The ARROW KEYPAD is used to select (highlight) menu options and enter data. It also controls cursor movement on the Map Page.

ENTER/MARK Key

The ENTER/MARK key selects a highlighted menu option. When entering data, it allows you to initiate entry, and then to accept the selected value(s). It also marks the current location as a waypoint when pressed and held for more than one second.

QUIT Key

The QUIT key returns the display to the previous page and, when entering data, it restores the previous value (cancels data entry).

OUT Key

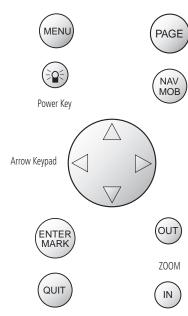
The OUT key adjusts the map scale to display a larger area with less detail. (Zooms OUT)

IN Key

The IN key adjusts the map scale to display a smaller area with more detail. (Zooms IN)

Getting Started

Keypad Usage



Always press and release a key to perform its primary function. Pressing and holding the ENTER/MARK or NAV/MOB keys will activate their secondary functions.

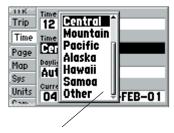
Selecting Options

EUI Screen Map On Measure Distance Loran TD On Big Numbers Change Data Fields Configure Map

Options Menu with a highlighted option.

Full Screen Map On Measure Distance Loran TD On Big Numbers Change Data Fields Configure Map

Use the ARROW | KEYPAD to highlight options. Press ENTER/ MARK to activate.



Pop-up list of options for a highlighted field.

How To Select Options and Enter Data

Before moving ahead into the features of the GPS 152, you will need to learn basic operations. We strongly encourage you to take the Getting Started tour before using your unit for actual navigation. You can select and activate options and enter data to customize the GPS 152 to fit your requirements. Use the **ENTER/MARK** key and **ARROW KEYPAD** to select options, enter names and numbers in data fields, and activate your selections.

To select and activate an optional feature:

- With any page displayed, press the **MENU** key to pop-up the options menu. The options menu will
 display a list of optional features which are specific for that particular page. To select any feature on
 the list of options requires movement of the cursor, which is identified as highlighting, selecting or
 choosing an item in a list or a field (box) on a page.
- Use the ARROW KEYPAD to move the cursor (highlight) up and down a list or up, down, and sideways on menus.
- 3. Once you have moved to the selection desired, press the ENTER/MARK key to either activate the feature or the MENU key to pop-up a sub-menu or list of yet more feature options. Just repeat this process to select an option from the list or press the QUIT key to return to the previous setting. The QUIT key will move backwards through these steps or when pressed, back to the main page you started on.

To select and activate a function button:

 When moving about a page with function buttons, like the 'New Waypoint' page (see page 3), you will observe functions such as 'Delete', 'Map' and 'OK'. To activate the function, highlight the desired button and press the ENTER/MARK key. Naming a waypoint or placing any sort of data that has not been predefined requires the use of both the **ARROW KEYPAD** and the **ENTER/MARK** key.

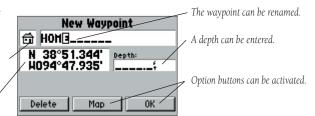
To enter a name or number in a data field:

- Once you have accessed a page with programmable data fields (i.e. 'Waypoint Edit') you can use the **ARROW KEYPAD** to move the cursor (Highlight) to fields on the page. Use the UP/DOWN arrows to move up or down and the LEFT/RIGHT arrows to move sideways.
- 2. Pressing the **ENTER/MARK** key with the field highlighted begins the process for entering data in the form of alphanumeric characters.
- 3. Use the **ARROW KEYPAD** UP/DOWN arrows to cycle through numbers 0 to 9, positive/negative symbols, blank space, and the alphabet. Pressing and releasing the keypad moves you character by character through the list. Pressing and holding the keypad moves you rapidly through the list.
- 4. Use the **ARROW KEYPAD** LEFT/RIGHT arrows to move to the next character on the line or backwards to edit characters. If there are more than two lines of data, keep pressing to the RIGHT to drop down to the next line.
- 5. When data entry is completed press **ENTER/MARK** to accept data, then move to the next programmable field. Not all data fields are programmable, like the date and time. When moving about a page with these type of fields, the cursor will skip over them.

Every field and button on this page can be programmed or activated.

A waypoint symbol can be selected from a list of symbols.

The coordinates can be changed.



Getting Started

Entering Data

N 28°28.3277' W082°42.401'







Pressing UP or DOWN on the ARROW KEYPAD changes the highlighted number or letter.

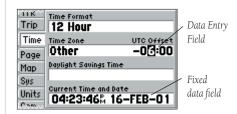








Pressing LEFT or RIGHT on the ARROW KEYPAD moves the cursor along the line or to the next line.



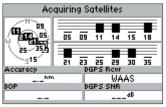
Initializing the Receiver



GPS 152 Self-Test Screen

WARNING All information is presented for reference only. You assume total responsibility and risk associated with using this device. [ENTER] to agree

GPS 152 Warning Screen



The Satellite Status screen displays until you press QUIT or ENTER or a fix is acquired.

The GPS 152's keypad system is designed to allow for fast, convenient selection of navigation options and data entry. The Getting Started Tour will introduce you to the keypad and provide a "hands-on" lesson in using the GPS 152.

The GPS 152 Quick Reference Guide contains helpful tips on using the unit and performing various navigation tasks. It's a good idea to keep the Quick Reference Guide nearby whenever you're operating your new GPS 152.

Initializing the Receiver

The first time you power up your new GPS 152, the receiver must be given an opportunity to collect satellite data and establish its present position. To ensure proper initialization, the GPS 152 is shipped from the factory in 'AutoLocate' mode, which will allow the receiver to "find itself" anywhere in the world. To speed up the initialization process, we recommend using the graphic initialization process described on the next page, which will usually provide a position fix within a few minutes.

Before you initialize, make sure the GPS 152 unit and antenna have been correctly installed on your vessel according to the instructions in Appendix G. The antenna needs to be in a location with a clear and unobstructed view of the sky to receive satellite signals.

To turn the GPS 152 on:

 Press and hold the **POWER** key until the power tone sounds and the display comes on, then release the **POWER** key.

The Welcome page will appear while the unit conducts a self-test. Once the internal test is complete, a Warning page will appear, asking you to read and acknowledge important information regarding the proper use of the unit.

To acknowledge the warning:

1. After reading the warning, press the **ENTER/MARK** key to agree and move to the next display.

To graphically initialize the GPS 152:

- Press the MENU key twice for the Main Menu. Press UP or DOWN on the ARROW KEYPAD until the 'GPS' tab is highlighted, then press the MENU key once.
- Using the ARROW KEYPAD, highlight 'Initialize Position' and press ENTER/MARK to initialize the receiver from the map. The Initialize Position Page will appear, prompting you to select your approximate location with the map cursor.
- 3. Use the **ARROW KEYPAD** to move the map cursor and point to your approximate location within 200 miles. If you have difficulty identifying your position, press and release the **IN** key to zoom in to see the next lower map scale.
- 4. Once you have determined your approximate location on the map, press the **ENTER/MARK** key.



NOTE: This does not "calibrate" the unit in any way, but rather helps to speed up the initial satellite acquisition. If the unit switches to the Map Page or displays '2D' or '3D Navigation' during this process, it is not necessary to initialize the unit.

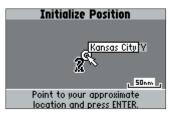
The GPS 152 will now begin searching for the appropriate satellites for your region and should acquire a fix within a few minutes. When viewing the Satellite Status page, a signal strength bar for each satellite in view will appear on the top middle of the page, with the appropriate satellite number under each bar. The progress of satellite acquisition is shown in three stages:

- No signal strength bars—the receiver is looking for the satellites indicated.
- Hollow signal strength bars—the receiver has found the indicated satellite(s) and is collecting data.
- Solid signal strength bars—the receiver has collected the necessary data and the satellite(s) are ready for use.

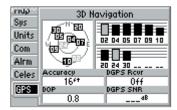
Once the receiver has collected information from at least three satellites, the top of the screen will display either "2D or 3D Navigation", and the GPS 152 is ready for use.

Getting Started

Initializing the Receiver



Point to your approximate location and press ENTER/MARK.

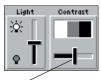


A satellite's strength bar will turn black when it's ready for use.



A 'Lost Satellite Reception' message appears on any screen if the navigation signal is lost.

Power On/ Screen Contrast



To adjust the screen contrast, press LEFT or RIGHT on the ARROW KFYPAD to move the contrast slider

GPS 152 Getting Started Tour

The GARMIN GPS 152 is a powerful electronic navigation system that provides convenient control of many advanced features from the screen display. This tour is designed to take you through the basic pages and functions of the system using the simulator mode. Once you're familiar with the main pages and functions of the unit, use the reference section for instructions on performing specific tasks and functions.

The Getting Started tour assumes that the receiver has been properly installed and initialized, and you have not changed any of the unit's default settings. If you have changed any settings (position formats, units of measure, etc.), the descriptions and pictures in the tour may not match your configuration.

To turn the GPS 152 on:

- Press and hold the **POWER** key until the power tone sounds, then release the **POWER** key. The Welcome Page will appear while the unit conducts a self-test.
- 2. Once the self-test is complete, press the **ENTER/MARK** key, if you agree, to acknowledge the warning.

The GPS Information Page will appear as the receiver begins acquiring satellites. From this page or any other page, you may also adjust the screen contrast and backlighting.

To adjust the screen contrast:

- 1. Press **POWER** and the Light and Contrast adjustment window will appear.
- 2. To decrease or increase the screen contrast, press LEFT or RIGHT on the **ARROW KEYPAD**.
- 3. Press the **ENTER/MARK** key to finish.

The GPS 152's adjustable screen backlighting is controlled with the **POWER** key, and may be adjusted at any time from any page. The backlight can cycle through off, user-defined, and maximum backlight levels by repeatedly pressing the **POWER** key.

To turn on and adjust the backlighting:

- 1. Press **POWER** and the Light and Contrast window will appear.
- Press POWER again and the user-defined level of backlighting will activate. You may adjust this level by pressing UP or DOWN on the ARROW KEYPAD. If you press POWER one more time, the backlighting will be at the maximum setting.
- 3. Press ENTER/MARK or QUIT when done.

The backlight will now cycle through off, the user-defined, and maximum backlight levels by repeatedly pressing the **POWER** key.

Each page and the Main Menu of the GPS 152's system may also feature menu options, which give you access to other functions and features that relate to the screen you are viewing. To get a feel for how the option menus work, put the GPS 152 into simulator mode.

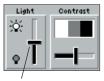
To place the GPS 152 in simulator mode:

- From any page, press the MENU key twice. The Main Menu will appear, displaying a tab style list
 of options and functions.
- 2. Use the **ARROW KEYPAD** to highlight the 'Sys' (System) tab, then press RIGHT then DOWN until the field below the word 'System Mode' is highlighted and press **ENTER/MARK**.
- 3. Highlight 'Simulator' and press **ENTER/MARK**. Press **ENTER/MARK** again to confirm the 'Running Simulator' message that appears at the bottom of the display.

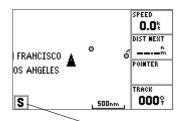
Once the simulator has been started, the lower left corner will display an 'S' in a box on the main pages to show "Simulating Navigation" status. Now you're ready to continue the rest of the simulated tour. **Keep in mind that the GPS 152 does not track satellites in simulator mode, and this mode should never be used for actual navigation.** All the waypoint and route planning done in simulator mode will still be retained in memory for future use.

Getting Started

Backlighting/ Simulator Mode

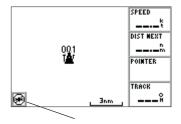


Press UP or DOWN on the ARROW KEYPAD to move the backlighting slider up for brighter or down for dimmer backlighting.



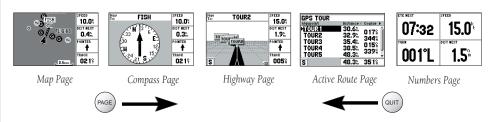
When the unit is in Simulator mode, an 'S' will appear in the lower left corner of the main pages to indicate the unit is simulating navigation.

Main Pages/ Map Page



Before satellite acquisition, or if satellite reception is lost, this icon in the lower left corner indicates that there is no GPS fix.

The GPS 152's system displays five main pages: the Map Page, Compass Page, Highway Page, Active Route Page and Numbers Page. All five pages are linked together in a simple chain, which allows you to scroll through the pages in either direction using the **PAGE** and **QUIT** keys.



To continue the tour, move to the Map Page.

To scroll to the next page in sequence:

1. Press the **PAGE** key.

The GPS 152's Map Page combines trackplotting with a user-selectable display of navigation data. It will also be the page you use most to create and edit waypoints and routes. Before you take off on a practice route, take a brief look at its various features and displays.

The map display shows your "boat" as a triangle marker. City names (Larger than 200,000 population), marine markers and buoys (for the Americas only, preloaded from the factory) are also shown. Additionally, it displays your track, routes and nearby waypoints. An on-screen cursor lets you pan to other map areas, determine the range and bearing to a position, and perform various waypoint and route functions.

The data window, located on the right side of the page, provides a user-selectable display of various navigation data, including course, speed over ground, and bearing and distance to a particular waypoint. The current map scale setting is located at the bottom right of the map window.

The Map Page Cursor

Working from the Map Page is a simple process that centers around the use of the cursor. Controlled by the **ARROW KEYPAD**, the cursor is an important tool that can be used to pan to other map locations, mark and edit waypoints and routes, and review position data of on-screen map items and waypoints.

To get a feel for using the Map Page and using the cursor, try the following exercise:

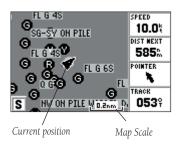
- 1. Use the **IN/OUT** keys to set the map scale to the 50 nm setting. Your boat should be near the center of the map, at the receiver's last known position (If your boat isn't where it should be, make sure that you have initialized the receiver and acquired a position as described on pages 4-5).
- 2. Use the **ARROW KEYPAD** to move the cursor. Notice how another data field, 'Map Pointer', appears at the top of the page. This field shows the bearing and distance from your boat to the cursor, along with the latitude/longitude of the cursor.
- 3. Press the **QUIT** key to remove the cursor and re-center your boat on the map display.

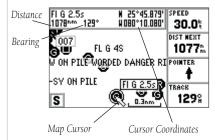
As you become more familiar with the cursor, you'll see that the map display actively scrolls or "pans," letting you explore areas around the world and create waypoints and routes. Wherever you move the cursor, you'll always be just one **QUIT** key press away from returning the map to your present position.

Now that you've seen how the GPS tab and Map Page can be used to monitor satellite acquisition and your present location, let's take a minute to learn how to mark and store your present position as a waypoint (Since you're in simulator mode, the present position displayed will be the last position calculated by the receiver, which should be the spot where you've initialized the unit). This will also give you an opportunity to see how the GPS 152's keypad and **ENTER/MARK** key are used for data entry and changing the waypoint name and symbol.

Getting Started

Map Cursor





Marking Waypoints



Press ENTER/MARK after entering the name.



Choose from a list of 40 useful symbols to represent your waypoint on the Map Page.

Marking Waypoints

To mark your present position:

- Hold down the ENTER/MARK key until the 'New Waypoint' window appears, then release the key.
 The window will show a default 3-digit waypoint name/number (001), symbol (dot), and position.
 You can leave the name as the auto-assigned number, but for this exercise, change the name
 to 'DOCK'.
- Use the ARROW KEYPAD to highlight the waypoint name field (001) and press ENTER/MARK. You will see that just the first '0' is now highlighted.
- Press LEFT on the ARROW KEYPAD to clear the name field.
- 4. Press the UP or DOWN arrow of the **ARROW KEYPAD** until the letter 'D' appears, and then press the RIGHT arrow key to go to the next space to the right, then UP or DOWN again until 'O' appears. Repeat this until you have entered the name 'DOCK'. If you make a mistake and select an incorrect character, simply use the LEFT arrow key of the **ARROW KEYPAD** to backspace the cursor and then UP or DOWN to correct the entry. (If you accidentally press **ENTER/MARK** before you are done, simply press **ENTER/MARK** again and move the highlight to where you left off.)
- 5. After you have entered all the letters, press **ENTER/MARK** to confirm the name.
- 6. To access the waypoint symbol page, highlight the waypoint symbol field which is to the left of the waypoint's name and press **ENTER/MARK**. Note that the default symbol is a dot.
- 7. You will see an alphabetical list of available waypoint symbols to choose from. You will see a scroll bar on the right of the window indicating your current position on the entire list of symbols. Press the **ARROW KEYPAD** UP or DOWN until you highlight the 'ANCHOR' symbol.
- 8. Press ENTER/MARK to confirm the 'ANCHOR' symbol.
- 9. Highlight 'OK' at the bottom of the window and press **ENTER/MARK** again to confirm the 'OK' prompt and save the waypoint. You may also highlight 'Delete' and press **ENTER/MARK** to not save the waypoint.

The waypoint is now stored in memory. Note that waypoints may also be created graphically with the Map Page cursor or by manually entering position coordinates. These techniques are described in the reference section of the manual and/or on the GPS 152 Quick Reference Guide.

Going to a Destination

GPS is all about marking positions as waypoints and navigating to them using the receiver's steering guidance and map displays. You've already seen how to use the **ENTER/MARK** key to store our present position, so it's time to move on to the fun part—going to a destination.

The **NAV/MOB** key, located on the left side of the keypad below the **PAGE** key, is the primary tool used to select a destination waypoint, a route to navigate, or start a TracBack. The **NAV/MOB** key can be used in three primary ways:

- Pressing NAV/MOB once displays a list of options from which you can select 'Go To Waypoint',
 'Follow Route', 'Follow Track', or 'Stop Navigation'.
- Holding down NAV/MOB, or pressing the key two times, activates the MOB (Man OverBoard) feature. This marks the point at which the MOB was activated as a waypoint named "MOB" and also establishes it as an active "Go To" point.
- Highlighting an on-screen waypoint, map feature or map location as a destination directly from the Map Page and pressing NAV/MOB allows you to graphically select points to "Go To".

For the simulated trip, you're going to select a pre-programmed tour route using the first method. This will also show how the **MENU** key is used throughout the GPS 152 system to provide tab style options and functions. Start by changing the position to where the practice route is located.

To change the GPS 152 position in simulator mode:

- 1. Press the **MENU** key twice to display the list of Main Menu tab items.
- 2. Use the UP or DOWN arrow of the **ARROW KEYPAD** to highlight the 'Sys' tab.
- 3. Highlight 'Set Options' in the lower right and press ENTER/MARK, then highlight 'Set Position' in the simulator setup window and press ENTER/MARK.
- From the Initialize Position page, press the MENU key. With 'Enter As Text' highlighted, press ENTER/MARK.
- On the Enter Position window, press ENTER/MARK then use the ARROW KEYPAD to enter N34°56.800′, W076°24.066′ and press ENTER/MARK when done.

Getting Started

Using the NAV/MOB Key



System tab simulator setup options.



Text entry for simulator position.

Simulated Tour



You may also Invert a route to follow it in reverse.



Simulator setup window.

Simulated Tour

To activate the practice route stored in memory for navigation:

- Press NAV/MOB. The option list page will appear. (If you were selecting a single waypoint to navigate to rather than a route, we could highlight the waypoint on the map, press NAV/MOB and then press ENTER/MARK.)
- 2. Use the **ARROW KEYPAD** to highlight the 'Follow Route' option. Press **ENTER/MARK** to confirm.
- 3. The Select Route page will appear, with the 'GPS TOUR' route highlighted.
- 4. Press **ENTER/MARK** then highlight 'Activate' and press **ENTER/MARK** again.

To get a better view, zoom in to a closer map scale.

1. Repeatedly press the **IN** key until you select the 5 nm scale. (Note: you may also hold the **IN** or **OUT** keys down to quickly scroll through the map scales.)

The Map Page should now display the first three waypoints chained together in a simple route, with your boat at the first route waypoint. A data field at the right of the page will now display the speed, distance to the next route waypoint, and a pointer which shows you which way to go. To get started, let's enter a speed for our vessel, which we can do from the Main Menu Page.

To enter a boat speed:

- 1. Press the **MENU** key twice to display the Main Menu Page.
- Use the ARROW KEYPAD to highlight the 'Sys' tab, then highlight the 'Set Options' button and press ENTER/MARK.
- Highlight the field below 'Speed' and press ENTER/MARK. Use the ARROW KEYPAD to enter a speed of 60 knots.
- 4. Press **ENTER/MARK** to finish, and **QUIT** until you return to the Map Page.

Once a speed has been entered, you'll notice that the map will automatically begin to move slowly, keeping your boat centered on the display. The direction of movement, also called 'track', will be controlled by the simulator.

You'll now have a clearer picture of the route you are navigating. Press the **IN** key to zoom in to the 2 nm scale. Now that you've zoomed in a little closer to your route, you can pan ahead of your vessel with the cursor to review map items and create on-screen waypoints. Try moving the cursor to highlight the 'TOUR3' waypoint—just use the **ARROW KEYPAD** to move the cursor as close as possible to the waypoint. (To move the cursor in small increments, try a series of short key presses.)

Once the cursor is over the TOUR3 waypoint, you'll notice that the waypoint symbol and name will become highlighted. The data field at the top of the page will display the waypoint name, the range and bearing from your present position, and the coordinates for the waypoint.

To review a selected waypoint:

- With the desired waypoint highlighted on the Map Page, press the ENTER/MARK key. The Waypoint Review page appears.
- 2. To return to the Map Page, highlight 'OK' and press ENTER/MARK, or just press QUIT.

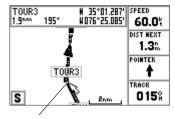
The cursor can also be used to create new waypoints right from the map display.

To create a new waypoint using the cursor:

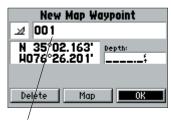
- 1. Use the **ARROW KEYPAD** to move the cursor as close as possible to the following position: N35° 02.187; W 076° 26.167′ (Use the data window to verify the cursor position.)
- Press and quickly release the ENTER/MARK key to capture the cursor position (pressing and holding the ENTER/MARK key will mark your current position, not the cursor position). The 'New Map Waypoint' page will appear.
- Use the ARROW KEYPAD to highlight the waypoint symbol field to the left of the waypoint name/number.
- 4. Press **ENTER/MARK** to access the symbol page.
- Press UP or DOWN on the ARROW KEYPAD to select the 'Shipwreck' symbol and press ENTER/MARK to confirm.
- 6. Highlight the 'OK' button and press **ENTER/MARK** again to finish.

Getting Started

Reviewing/Creating Map Waypoints

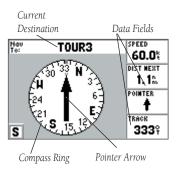


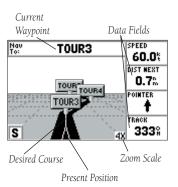
Highlighting a waypoint with the Map Page cursor.



Waypoint numbering will start with 001 and continually count up, even if the waypoint name has been deleted.

Compass/Highway Pages





Now that we're navigating to an actual destination, let's move on to the GPS 152 navigation pages by pressing the **PAGE** key. The GPS 152 features two different navigation pages: Compass and Highway. The Compass Page is first. This page provides graphic steering guidance to a destination waypoint, with an emphasis on the bearing to your destination and current direction of travel, while the Highway Page places greater emphasis on the straight-line desired course and the distance and direction you are off course.

The middle of the Compass Page features a rotating 'compass ring' that shows your course over ground (track) while you're moving, and a bearing pointer that indicates the direction of the destination (bearing) relative to the course over ground. The compass ring and pointer arrow work independently to show, at a glance, the direction of your movement and the direction to your destination. For instance, if the arrow points up, you are going directly to the waypoint. If the arrow points any direction other than up, turn toward the arrow until it points up, then continue in that direction.

The current speed and distance to the next waypoint as well as the pointer to the next waypoint are displayed on the right side of the screen. This page provides better steering guidance than the Highway Page when travelling at slower speeds and/or when making frequent directional changes. When you are not navigating to a waypoint, the compass will show your direction of travel as you move but the arrow will not appear.

Let's move on to the Highway Page by pressing the **PAGE** key. The GPS 152's Highway Page also provides graphic steering guidance to a destination waypoint. As you head toward your destination, the middle of the screen provides visual guidance to your waypoint on a moving graphic "highway." Your present position is at the bottom center of the highway display. The line down the middle of the highway represents your desired course. As you navigate toward a waypoint, the highway will actually move, indicating the direction you're off course.

To stay on course, simply steer toward the center of the highway or "keep it on the road". The four default data fields on the right side of the page indicate speed and distance to the next destination (or the next waypoint in a route), along with a pointer arrow which points the next waypoint and the compass track you are heading. Use the Highway Page as your primary navigation page (in lieu of the Compass Page) when your main concern is following a defined course.

If you get off course, the highway will move to give you graphic guidance to get back on course. You can use the **IN** or **OUT** keys to zoom in or out on the Highway display for a smaller or larger view. Five available settings range from 1X to 16X, with a default setting of 8X. The current scale will appear in the bottom right of the display.

While in simulator mode, you may also adjust the speed and course on the Highway Page.

To adjust the speed and course while in simulator mode:

1. Press LEFT or RIGHT on the **ARROW KEYPAD** to adjust the course and press UP or DOWN to increase/decrease the speed in 10 kph/mph increments.

Press **PAGE** to see the next page appearing in the main sequence, which is the Active Route Page. Whenever you have activated a route or TracBack, this page will show each waypoint name along with useful data for each point. As you navigate the route, the information will automatically update to indicate the next point along the route, which is denoted by an arrow on the left-hand side of the screen. For more detailed information on the Active Route Page, see page 52.

Press **PAGE** to see the last page appearing in the main sequence, the Numbers Page. The default page will display four user-selectable data fields showing the speed, pointer, distance to the next waypoint, and current track. You may also choose to show one data field in large lettering for better readability using the 'Big Numbers' option.

To toggle between full screen data and four data display:

 Press MENU, then highlight either 'Big Numbers' or 'Small Numbers' and press the ENTER/MARK key.

Getting Started

Highway/Active Route/ Numbers Pages

GPS TOUR		
Waypoint	Distance 4	Course >
TOUR 1	30.6%	0178 Î
TOUR2	32.9%	344%
TOUR3	35.4%	015%
TOUR4	38.5%	339%
TOUR5	48.3⋒	· · · · · · ·
S	48.32	35 1 i

Active Route Page



Numbers Page



Numbers Page with Full Screen Data

Data Fields/ Main Menu Page



You may choose from 28 different types of data.



Main Menu page with the 'Wpt' tab selected.

Data fields on the main pages (except the Active Route Page) may also be configured to display any of 28 different information categories (see pages 22-23 for the complete list). On the Numbers Page, change the 'POINTER' field to 'POSITION'.

To change a data field:

- 1. Press the **MENU** key to display the Numbers Page options.
- 2. Use the **ARROW KEYPAD** to highlight 'Change Data Fields' and press **ENTER/MARK**.
- Once the menu window disappears, use the ARROW KEYPAD and highlight 'POINTER', then press ENTER/MARK.
- 4. On the alphabetical list of options, press the ARROW KEYPAD UP or DOWN until you highlight 'POSITION' and press ENTER/MARK (you may also press LEFT or RIGHT on the ARROW KEYPAD to scroll the list a page at a time). You will see a scroll bar on the right side of the window indicating your current position on the entire list of options.
- 5. Press **QUIT** when done.

As you've seen, the primary pages provide map and navigation information. The tour's last page is the Main Menu page, which allows access to the GPS 152's waypoint, route and planning functions, various operational and navigation setup features, and celestial and tidal data.

The Main Menu is available from any page, and is accessed through the **MENU** key.

To access the Main Menu page:

1. Press the **MENU** key twice.

The Main Menu page lists 14 menu 'tabs' that are divided into categories by function. You can view a particular menu by simply highlighting the desired tab, which will then show any secondary submenu tabs and options for that tab.

To get a feel for how the Main Menu page works, clear out the track log you created during the simulated tour. This will ensure that you have a clean slate once you start navigating in your home waters.

To select the Track submenu tab:

- Use the ARROW KEYPAD to highlight the 'Trk' tab on the Main Menu page. You will see the options for the Track tab appear to the right of the Main Menu list.
- 2. Press RIGHT on the **ARROW KEYPAD** to highlight the 'Active' tab.

The Track Log Page allows you to specify whether to record a track plot, define how it is recorded and save your current track log. It also provides both an indicator of the percentage of total memory used and menu options to save or clear the active track log.

To clear the active track log:

- With the 'Active' Track submenu selected, press MENU then highlight the 'Clear' option and press ENTER/MARK. A confirmation page will appear.
- 2. Highlight the 'OK' prompt and press ENTER/MARK to confirm.
- 3. Press **PAGE** or **QUIT** to return to any of the main pages.

Congratulations! You've now gone through the basic operation of the GARMIN GPS 152. Your new GPS is a powerful tool with many advanced features not covered in the Getting Started tour. For detailed instructions on using these features or performing a specific task, please refer to the Quick Reference Guide or the appropriate reference section of this manual.

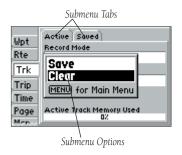
To turn the GPS 152 off:

- 1. Press and hold the **POWER** key for about 2 seconds, until the screen is blank.
- 2. When the screen is blank, release the **POWER** key.

The next section of the manual describes the pages and functions of the GPS 152 in detail. If you are unable to locate a specific option or function, please refer to the Index on pages 85-87. Thank you for choosing the GARMIN GPS 152 navigation unit. We hope it will be a useful and fun tool for you wherever you go!

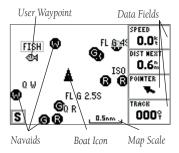
Getting Started

Deleting Track Logs/ Powering Off Unit



Reference

Map Page





If MapSource Points of Interest or other MapSource data is loaded into the unit, the tides, cities and marine navaids will be deleted from the system. Check the GARMIN web site (www.garmin.com) for updates to reinstall the original factory-loaded data.

Map Page

The GPS 152's Map Page provides a display of plotting and navigational data. The unit is preloaded from the factory with a worldwide database of cities greater than 200,000 in population and marine navaids, for the Americas only. It also plots your track and displays any routes and waypoints you create. An on-screen cursor lets you pan and scroll to other map areas, determine the distance and bearing to a position, and perform various route and waypoint functions.

Two basic map operating modes, position mode and cursor mode, determine what is shown on the map display. Position mode pans the map to keep the present position marker (triangle) within the display area, while cursor mode pans the map to keep the cursor (arrow pointer) within the display area. The GPS 152 will always power up in the position mode, with your vessel centered on the map display. Whenever the **ARROW KEYPAD** is pressed, the GPS 152 will enter cursor mode.

When the cursor is active, an additional data window will appear at the top of the screen to indicate the position, range and bearing to the cursor or a selected waypoint or map item.

Using the Cursor

The cursor allows you to pan away from your present position and scroll to other map areas around the world. As you pan past the edge of the current map display, the screen will actively scroll forward to provide continuous map coverage (keep in mind that the boat icon will move with the scrolling map, and may not be visible on the display screen).



NOTE: When the cursor reaches the edge of the map, the unit may pause as it loads new data.

To move the cursor:

1. Press the **ARROW KEYPAD** to move the cursor in an up, down, left or right direction.

As you move the cursor, the distance and bearing from your present position to the cursor will be displayed in the data window, along with the cursor's position coordinates. When you zoom in cursor mode, the cursor will be centered on the screen. When the cursor is stationary, a fixed coordinate position will appear in the position field, and the distance and bearing from your present position will change as your boat moves.

To eliminate the cursor and re-center your position on-screen:

1. Press the **QUIT** key.

The cursor may also be used to snap-to on-screen waypoints and map items, allowing you to review details about a selected position directly from the map display.

To select an on-screen waypoint or map item with the cursor:

- 1. Use the **ARROW KEYPAD** to move the cursor to the desired waypoint or map item. If there are several waypoints grouped closely together, zoom IN closer for a better view.
- 2. When a waypoint or map item is selected, it will become highlighted on screen, with the name and position displayed at the top of the screen.

To view additional details about an on-screen waypoint or map item:

- 1. With the desired waypoint or map item highlighted, press **ENTER/MARK**.
- If the item is a waypoint, the Waypoint Review window will appear, showing the waypoint name, symbol, coordinates and depth (all of which are editable), and the options to 'Delete' the waypoint, show it on the 'Map', or 'OK' to return to the Map Page. Use the **ARROW KEYPAD** to highlight 'OK' or press **QUIT** to exit the Waypoint Review page.

If the item is a map feature, such as a city, an Information page will appear, showing the name, distance and bearing from your current position, and the options to show it on the 'Map' or 'Create Waypt'. Press **QUIT** to exit the Information page.

Reference

Map Page Cursor



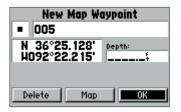
Move the cursor over an item on the map to highlight it.



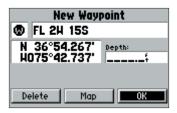
Pressing ENTER/MARK while highlighting a map item will bring up the Information page for that map feature.

Reference

Creating Waypoints with the Map Page Cursor



Creating a New Map Waypoint



Creating a New Waypoint from a Map Feature

The cursor may also be used to create new waypoints directly from the map.

To create a waypoint with the cursor on a open map location:

- 1. Use the **ARROW KEYPAD** to move the cursor to the desired map position.
- Press and quickly release the ENTER/MARK key to capture the cursor location (pressing and holding the ENTER/MARK key will capture the current location, not the cursor's location).
- The 'New Map Waypoint' window will appear. With 'OK' highlighted, press ENTER/MARK to confirm the new waypoint using the default three-digit name and symbol.

To create a waypoint with the cursor on a map item:

- 1. Use the **ARROW KEYPAD** to move the cursor and highlight the desired map feature.
- Press the ENTER/MARK key to capture the cursor location. The Information page for that feature will appear. Use the ARROW KEYPAD to highlight 'Create Waypt' and press ENTER/MARK.
- The 'New Waypoint' window will appear. With 'OK' highlighted, press ENTER/MARK to confirm the new waypoint using the default name and symbol based on the map feature.

Selecting Map Scales

The map display has a range of 24 available scales from 120 ft. to 800 mi. (30 mt. to 1200 km). The map scale is controlled by the ${\bf IN}$ and ${\bf OUT}$ keys, with the current scale displayed at the bottom right of the data window.

To select a map scale:

1. Press the **OUT** key to zoom out and the **IN** key to zoom in.



The scale value represents the distance from one end of the scale bar to the other.

Many features of the GPS 152 are menu driven. Each of the main pages has an options menu, allowing you to customize the corresponding page to your preferences and/or select special features that specifically relate to that page. The data window (located at the right of the Map, Compass and Highway pages, and the entire screen on the Numbers page) provides a user-selectable layout of various types of useful data. Each data field may be configured to display any one of 28 data options. The data window layout may also be changed to display additional data fields and change the actual size of the data displayed. The GPS 152's Map Page options menu provides access to functions and features relating to the Map Page and options for layout of the page.

To display the Map Page options:

1. Press MENU.

To select a menu option:

1. Use the **ARROW KEYPAD** to highlight the desired option and press **ENTER/MARK**.

The Map Page options include: Full Screen Map On/Full Screen Map Off, Measure Distance, Loran TD On/Loran TD Off, Small Numbers/Big Numbers, Change Data Fields, and Configure Map. Following are details on using each of these options.

• Full Screen Map On/Full Screen Map Off — toggles between a Map Page without or with data fields on the map display.

To maximize the map/show data fields:

- Highlight the 'Full Screen Map On' option and press ENTER/MARK. The Map Page will now be maximized with no data fields.
- To show the data fields again, press MENU, highlight 'Full Screen Map Off' and press ENTER/MARK.

Reference

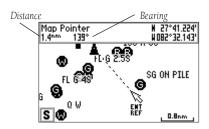
Map Page Options



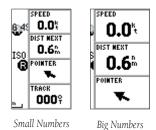
Map Page Options

Reference

Map Page Options



Measuring Distance/Bearing (Full Screen Mode shown)



(3 fields)

(4 fields)

• **Measure Distance** — allows you to measure the bearing and distance between any two points on the map display.

To measure the Bearing/Distance between two points:

- 1. Highlight the 'Measure Distance' option and press **ENTER/MARK**. An on-screen pointer will appear on the map display at your present position with 'ENT REF' below it.
- Move the cursor to the desired reference point (the point that you want to measure from) and press ENTER/MARK.
- 3. Move the cursor to the point that you want to measure to. The bearing and distance from the reference point will be displayed in the data window at the top of the display.
- 4. Press the **QUIT** key to finish.
- **Loran TD On/Off** allows you to toggle the position coordinate format between the current grid and Loran TD (Time Delays). For setup of Loran TD, see pages 70-71.
- **Big/Small Numbers** allows you to change the text size and number of data fields that will be displayed. Big Numbers will display three data fields with larger text and Small Numbers will display four data fields with smaller text.

To toggle between Big Numbers and Small Numbers:

- 1. Highlight the 'Big Numbers' or 'Small Numbers' option and press ENTER/MARK.
- **Change Data Fields** allows you to specify the type of data displayed in each data field used on the map display.

The following options are available for display in data fields on the Map, Highway, Compass, and Numbers pages:

- BEARING Compass direction from your position to destination
- COURSE Course over ground
- DEPTH Depth below transducer (if receiving proper sonar NMEA data from other device)
- DIST TO DEST Distance to final waypoint (destination)

- DIST TO NEXT Distance to next waypoint
- ELEVATION Elevation (altitude) above/below MSL (Mean Sea Level)
- ETA AT DEST Estimated Time of Arrival to final waypoint
- ETA AT NEXT Estimated Time of Arrival to next waypoint
- GPS ACCURACY Estimated accuracy of the GPS position
- MAX SPEED Fastest speed the unit has traveled
- MOV AVG SPEED Average moving speed
- MOV TRIP TIMER Time unit has been moving for a trip
- OFF COURSE Distance and direction from desired track
- POINTER Arrow points to your destination
- POSITION Current position (only available when using Big Numbers option)
- SPEED Speed over ground/water
- TIME OF DAY Current time
- TIME TO DEST Time to final waypoint (destination) at current speed and course
- TIME TO NEXT Time to next waypoint at current speed and course
- TO COURSE Direction to desired track
- TRACK Current compass heading
- TRIP ODOM Trip Odometer
- TTL AVG SPEED Total average speed
- TTL TRIP TIMER Total travel time of trip, stopped and moving
- TURN Turn angle to waypoint
- VMG Velocity Made Good to destination
- WATER SPEED Speed through the water (if receiving proper sonar NMEA data from other device)
- WATER TEMP Water temperature (if receiving proper sonar NMEA data from other device)

To change a data field:

- 1. Highlight the 'Change Data Fields' option and press **ENTER/MARK**.
- 2. Move the field highlight to the data field you want to change and press **ENTER/MARK**.
- 3. Move the **ARROW KEYPAD** UP or DOWN to highlight the data you want to display, and press **ENTER/MARK**. To change another data field, repeat steps 2 and 3. To exit, press **QUIT**.

Reference

Map Page Options



Change Data Fields Option



Scroll bar shows your position on the alphabetical list.

Reference

Map Page Options



General Tab



Source Tab

• **Configure Map** — jumps to the Map tab of the Main Menu, allowing you to configure the map display to your preferences, including map detail, map orientation, automatic zoom, and various map items and points. The map configuration option uses a 'file tab' feature, making it easier to organize the various settings for ease of use.

To change a map setup feature:

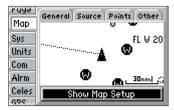
- 1. From the Map Page menu, highlight the 'Configure Map' option and press ENTER/MARK.
- Move LEFT or RIGHT on the ARROW KEYPAD to highlight the desired file tab, then UP or DOWN on the ARROW KEYPAD to highlight the setting you want to change and press ENTER/MARK.
- Move UP or DOWN on the ARROW KEYPAD to highlight the desired setting and press ENTER/MARK.
- 4. To exit, press **QUIT**.

While configuring the map setup, or after making a change, you may want to view the map to see how its looks or how it has changed.

To view the map during Map page configuration:

- On any of the map setup file tabs, use the ARROW KEYPAD to highlight the 'Show Map' button and press ENTER/MARK. The map setup information within the file tab will be replaced with a small version of the map.
- 2. To return to the Map page setup, highlight the 'Show Map Setup' button and press ENTER/MARK.





Following are details on each of the settings in the Map setup file tabs:

General Tab

Detail — Most, More, Normal, Less, Least: controls how much map detail you will see. This setting only applies to any map feature set to "Auto." Those features which have a specified scale or are turned "Off" are unaffected by this setting.

Orientation — North Up: fixes the top of the map display to a north heading; Track Up: fixes the top of the map display to the current track heading; Course Up: fixes the map so the direction of navigation is always "up" and turns the navigation leg line vertical on the screen.

AutoZoom — On/Off: when "On" the map will automatically adjust the map scale to a lower scale as you approach you destination point.

Source Tab

Data — On/Off: turns the loaded map data on or off.

Points Tab — Waypoints, Active Route, Marine Navaids, and Geo Points

Text — None, Small, Medium, and Large: controls the screen size of the name.

Zoom — Auto, Off, 120 ft.-800 mi.: sets the maximum scale at which the feature should appear on the screen. Some types of data will only show up to certain zoom scales.

Other Tab

Accuracy Circle — On/Off: toggles the circle "On" or "Off." The circle represents the approximate accuracy of the unit based on EPE and DOP. Your position will be within the circle.

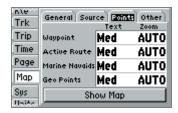
Heading Line — On/Off: turns the Heading Line "On" or "Off. The Heading Line projects from the triangle (boat icon) showing your current heading.

Bearing Line — Auto, Off, 120 ft.-800 mi.: sets the scale at which the Bearing Line will appear on the screen. The Bearing Line shows the bearing from your current location to a destination waypoint.

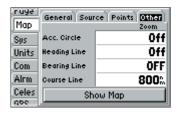
Course Line — Auto, Off, 120 ft.-800 mi.: sets the scale at which the Course Line will appear on the screen. The Course Line shows a direct navigation line from the point navigation was initiated to a destination waypoint.

Reference

Map Page Options



Points Tab



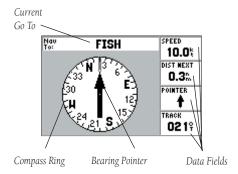
Other Tab

Reference

Map Page Options/ Compass Page



Map Setup Menu Options



Map Setup Menu Options

From the map setup page, you can access the following menu options:

- Restore Defaults restores settings back to factory settings for the selection highlighted.
- Restore All Map Defaults restores settings back to factory settings for all tabs.

To restore defaults for map settings:

- 1. From the Map tab in the Main Menu, highlight the tab or setup feature you want to restore settings to and press **MENU**.
- 2. Highlight 'Restore Defaults' (highlight 'Restore All Map Defaults' if you want all tabs restored) and press **ENTER/MARK**.

Compass Page

Whenever a **NAV/MOB**, Follow Track (TracBack) or Follow Route has been activated, the GPS 152's Compass Page will guide you to your destination with digital readouts and a graphic compass display, which includes a bearing pointer. Use this page (instead of the Highway Page) when travelling at slower speeds, when making frequent directional changes, or where straight-line navigation is not possible due to obstructions or terrain.

The middle of the page features a rotating 'compass ring' that shows your course over ground (track) while you're moving. Your present course over ground is indicated at the top of the compass ring. A bearing pointer, in the middle of the compass ring, indicates the direction of the destination (bearing) relative to the course over ground. The compass ring and pointer arrow work independently to show—at a glance—the direction of your movement and the direction to your destination. For instance, if the arrow points up, you are going directly to the waypoint. If the arrow points any direction other than up, turn toward the arrow until it points up, then continue in that direction.



The bearing pointer and/or compass ring may point in various directions when you are stationary or at very low speeds. Once you start moving, the pointer will be correct.

The GPS 152's Compass Page features a menu page that provides access to data field and simulator options. You may start and stop the simulator from this page. The data window, located on the right side of the page, provides a user-selectable layout of various types of useful data. Each data field may be configured to display any one of 28 data options (Change Data Fields). The data window layout may also be altered to change the actual text size of the data displayed (Big/Small Numbers).

To display the Compass Page options:

1. Press MENU.

To select a menu option:

 Use the ARROW KEYPAD to highlight the desired option and press ENTER/MARK. For detailed instructions on changing the data fields and data text size of the Compass Page, see pages 22-23.

Highway Page

Whenever a **NAV/MOB**, TracBack or route has been activated, the GPS 152's Highway Page will provide digital and graphic steering guidance to the destination. The right side of the Highway Page features user-selectable data fields that display useful navigation data. The middle section of the screen provides visual guidance to waypoints on a graphic highway display. The line down the center of the highway represents your desired track line.

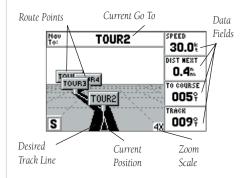
As you head toward your destination, the highway perspective moves to indicate your progress to the waypoint and which direction you should steer to stay on course. If you are navigating a route, the Highway Page shows each route waypoint in sequence connected by a black "road" with a white line down the middle, which is your desired track line. The Highway perspective scale may also be zoomed in or out to display a larger or smaller view of the highway. Five zoom settings are available from 1X to 16X, with a default setting of 8X.

Reference

Compass Page/ Highway Page



Compass Page Menu Options



Highway Page



Highway Page Options Menu

To change the highway perspective scale:

1. Press the **IN** or **OUT** key to select the desired setting.

The GPS 152's Highway options page allows you to define the data fields and select which waypoints are displayed on screen. The data fields, located on the right side of the page, provides a user-selectable layout of various types of useful data. Each data field may be configured to display any one of 28 data options (Change Data Fields). The data field layout may also be altered to change the actual text size of the data displayed (Big/Small Numbers).

The GPS 152's Highway Page features a menu options page that provides access to functions and features relating to the Highway Page and the layout options.

To display the Highway Page options:

1. Press **MENU**.

To select a menu option:

1. Using the **ARROW KEYPAD**, highlight the desired option and press **ENTER/MARK**.

The following options are available from the Highway Page menu:

- **Show/Hide Tracks** toggles the display of track lines on/off.
- **Big/Small Numbers** allows you to change the text size and number of data fields that will be displayed. Big Numbers will display three data fields with larger text, and Small Numbers will display four data fields with smaller text.
- **Change Data Fields** allows you to specify the type of data displayed in each data field used on the display.

For detailed instructions on changing the data fields on the Highway page, see pages 22-23.

Active Route Page

Whenever you activate a route in the GPS 152 system, the Active Route page will show each waypoint of the active route, along with various, user-selectable types of data. For additional details on the Active Route Page, see page 52.

Numbers Page

The Numbers Page allows quick and easy viewing of different types of data in a user-configurable layout. The default page will display four user-selectable data fields showing the ETE (Estimated Time En route) to the next waypoint, speed, turn degree to get you back on course and distance to the next waypoint. You may also choose to show one data field in large lettering for better readability using the 'Big Numbers' option.

The following options are available from the Numbers Page by pressing **MENU**:

- Big Numbers/Small Numbers toggles between one large or four smaller data fields.
- **Change Data Fields** allows you to specify the type of data displayed in each data field used on the display.

For detailed instructions on changing the data fields and data text size of the Numbers page, see pages 22-23.

Reference

Active Route Page/ Numbers Page

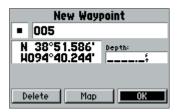
GPSHAP TOU	R	
Waypoint	Distance ∢	Leg Dist ▶
TOUR2	1.0%	2.5%
TOUR3	3.5‰	3.12
TOUR4	6.6%	9.8%
TOUR5	16.4 <u>%</u>	7.0m
	<u>N</u>	<u>î</u>
TOTALS	16.42	16.4%

Active Route Page

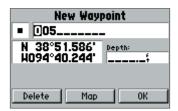


Numbers Page- Big Numbers

Creating Waypoints



Press ENTER/MARK to use the default name and symbol.



Highlight a field and press ENTER/MARK to enter a new symbol, name or depth.

Creating Waypoints

The GARMIN GPS 152 stores up to 500 alphanumeric waypoints with a user-defined icon and depth available for each waypoint. Waypoints can be created using three basic methods:

- ENTER/MARK key used primarily for marking your present position, the ENTER/MARK key
 also provides options that allow you to select a map position or map item from the map display.
- Graphically allows you to define a new waypoint position from the map display using the ARROW KEYPAD.
- Text Entry allows you to enter a new waypoint's position coordinates manually (from a chart, etc.).

ENTER/MARK Key

The GARMIN GPS 152's **ENTER/MARK** key lets you quickly capture your present position in order to create a new waypoint. You must have a valid position (2D or 3D) fix to mark your present position. This can be determined by looking at the GPS Main Menu tab.

To mark your present position:

- 1. Press and hold the **ENTER/MARK** key until the 'New Waypoint' window appears then release it. You will see a default three-digit name and symbol for the new waypoint.
- To accept the waypoint with the default name and symbol, press ENTER/MARK to confirm the highlighted 'OK' prompt.
- To enter a different name, highlight the name field and press the ENTER/MARK key, then use the ARROW KEYPAD to enter the new letters/numbers. Press ENTER/MARK when done. Note that you may use up to ten alphanumeric characters for the name.
- To enter a different symbol, highlight the symbol field to the left of the name and press the ENTER/MARK key. Use the ARROW KEYPAD to highlight the new symbol and press ENTER/MARK. (continued)

- 5. To enter an optional depth, highlight the "Depth" field to the right of the position coordinates and press the ENTER/MARK key, then use the ARROW KEYPAD to enter a value and press ENTER/MARK. If you are receiving valid sonar NMEA input (page 83), the depth field will automatically fill in. Otherwise, you must manually enter a depth.
- When done, use the ARROW KEYPAD to highlight the 'OK' prompt and press ENTER/MARK to save the waypoint into memory.

Creating Waypoints Graphically

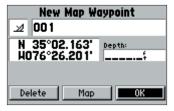
Waypoints may also be quickly created with the Map Page cursor, which allows you to 'point and shoot' at any map position or map feature to create a new waypoint. When you move the cursor over a map item, you will see a highlighted description of that item. The GPS 152 will use the map item text shown on the cartography as the default name and symbol.

To create a new waypoint on an open map location (not a map item):

- 1. Use the **ARROW KEYPAD** to move the cursor to the desired map position.
- 2. Press and quickly release the **ENTER/MARK** key to capture the cursor location (pressing and holding the **ENTER/MARK** key will capture the current location, not the cursor's location).
- 3. The 'New Map Waypoint' page will appear. To accept the waypoint with the default name and symbol, highlight 'OK' and press **ENTER/MARK**.
 - To change the name, symbol or enter a depth, highlight the appropriate field and press **ENTER/MARK**. Make your changes and press **ENTER/MARK** when done. After entering and confirming your changes, highlight 'OK' and press **ENTER/MARK**.

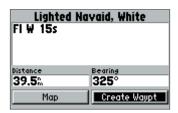
Reference

Creating Waypoints



Creating a map waypoint from non-map item.

Creating Waypoints



Choose 'Create Waypoint' on the Information page to use the map item for a new waypoint.



Highlight the position field and use the ARROW KEYPAD to enter the desired position coordinates.

To create a new waypoint from a map feature:

- 1. Use the **ARROW KEYPAD** to move the cursor to the desired map feature.
- Press the ENTER/MARK key to capture the cursor location. An Information page for that map feature will appear. Use the ARROW KEYPAD to highlight 'Create Waypt' and press ENTER/MARK.
- 3. The 'New Waypoint' page will appear. To accept the waypoint with the default name and symbol based on the map feature, highlight 'OK' and press **ENTER/MARK**.

To change the name, symbol or enter a depth, highlight the appropriate field and press **ENTER/MARK**. Make your changes and press **ENTER/MARK** when done. After entering and confirming your changes, move the field highlight back to the 'OK' prompt and press **ENTER/MARK**.

Creating Waypoints By Text Entry

Waypoints may also be created by entering a position's coordinates through the 'Wpt' tab on the main menu page.

To create a new waypoint by entering a location's coordinates:

- 1. Press **MENU** twice to display the main menu page.
- Highlight the 'Wpt' tab option and press MENU. Then highlight 'New Waypoint' and press ENTER/MARK. The 'New Waypoint' page will appear, with the next available waypoint number and the receiver's last known position as the default name and position.
- 3. To enter coordinates, or change the waypoint name, symbol or enter a depth, highlight the desired field and press **ENTER/MARK**. Use the **ARROW KEYPAD** to enter the new information, and press **ENTER/MARK** after the last character in each section.
- 4. When you have finished entering all the waypoint data, highlight 'OK' and press **ENTER/MARK**.

Reviewing and Editing Waypoints

Once you have created and stored a waypoint, it may be modified, reviewed, renamed, moved or deleted at any time through the Waypoint Review and Waypoint Edit pages.

To access the Waypoint Review page:

- 1. Use the **ARROW KEYPAD** to highlight the desired waypoint on the Map Page.
- 2. Press **ENTER/MARK** to display the Waypoint Review page.

To access the Waypoint Edit page:

- Press MENU twice to view the Main Menu. Use the ARROW KEYPAD to highlight the 'Wpt' tab, then highlight the desired waypoint from the 'By Name', 'Nearest' or 'Proximity' lists.
- 2. Press ENTER/MARK to display the Waypoint Edit page.

From the Waypoint Review and Waypoint Edit pages, you may change the name, symbol, position coordinates, or depth for the selected waypoint. Once the changes have been made, highlight 'OK' (Waypoint Review page) or 'Next' (Waypoint Edit page) and press **ENTER/MARK** to save them.

To change the waypoint name:

- 1. Highlight the waypoint name field and press ENTER/MARK.
- 2. Use the **ARROW KEYPAD** to enter a new name and press **ENTER/MARK** when done.

To change the waypoint symbol:

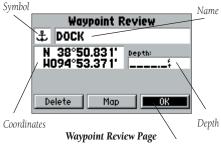
- 1. Highlight the waypoint symbol field to the left of the waypoint name and press **ENTER/MARK**.
- 2. Use the **ARROW KEYPAD** to select the desired symbol and press **ENTER/MARK** when done.

To change the position coordinates:

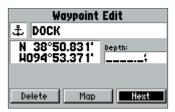
- 1. Highlight the position coordinate field and press **ENTER/MARK**.
- Use the ARROW KEYPAD to edit the coordinates. To drop to the next line, press to the right on the ARROW KEYPAD. Press ENTER/MARK when done.

Reference

Editing Waypoints



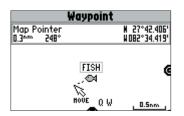
Select 'OK' to exit/save changes and return to the Map Page.



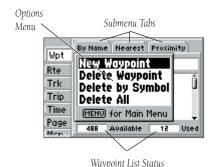
Waypoint Edit Page

Select 'Next' to exit/save changes and return to the next waypoint in the list.

Editing Waypoints



Moving a waypoint on the map.



On the Waypoint Review and Waypoint Edit pages, you may also delete the selected waypoint, view the waypoint on the map, and move the waypoint on the map.

To delete a waypoint:

On the Waypoint Review/Waypoint Edit page for the selected waypoint, use the ARROW KEYPAD
to highlight 'Delete' and press ENTER/MARK. With 'OK' highlighted, press ENTER/MARK again
to confirm the deletion.

To view and move the waypoint on the map:

- 1. From the Waypoint Review/Waypoint Edit page, highlight 'Map' and press **ENTER/MARK**. The waypoint will be displayed on a map screen with an information window at the top that shows the waypoint name, position, and distance and bearing.
- To move the waypoint, highlight it and press ENTER/MARK. A 'MOVE' label will now appear under the cursor arrow. It may be necessary to use the IN and OUT keys to zoom the map.
- Use the ARROW KEYPAD to move the waypoint to a new position. As you move the cursor around the map display, the information window at the top will change to show position, distance and bearing of the map pointer (the location you're moving the waypoint to). If you wish to stop the move process, press QUIT.
- 3. With the pointer at the desired position, press **ENTER/MARK**. To return to the Waypoint Review/ Waypoint Edit page, press **QUIT**.

Waypoint Lists

The GPS 152's Main Menu Page features three waypoint submenu tabs, 'By Name', 'Nearest', and 'Proximity', that let you manage a large number of waypoints quickly and efficiently. The submenu tabs also provide a continuously updated nearest waypoints list and a proximity waypoint alarm function that can be used to define an alarm circle around submerged hazards, shallow waters, etc.

To access the Waypoint submenu tabs of the Main Menu:

Press MENU twice, then use the ARROW KEYPAD to highlight the 'Wpt' tab, and then the
desired submenu tab.

'By Name' Waypoints List

The 'By Name' submenu of the Waypoint tab displays a master list of all waypoints currently stored in memory. From the By Name list, you may review, edit, rename or delete individual waypoints, or delete all user waypoints. The total number of stored and available waypoints is displayed at the bottom of the By Name page, with the stored waypoints arranged in numerical/alphabetical order.

To scroll through and review the 'By Name' waypoints list:

- With the ARROW KEYPAD, highlight the 'Wpt' tab from the Main Menu page and then highlight 'By Name'.
- 2. Use the **ARROW KEYPAD** to scroll through the list in the desired direction.
- 3. Press **ENTER/MARK** to review the highlighted waypoint on the 'Waypoint Edit' page (see pages 33-34 for detailed information on reviewing and editing waypoints).
- 4. With 'Next' highlighted, press **ENTER/MARK** to return to the list. The field highlight will automatically move to the next waypoint in the list (you can review details of each waypoint in any waypoint list by pressing **ENTER/MARK** repeatedly).

To display the menu options for the 'By Name' waypoint submenu:

1. Use the **ARROW KEYPAD** to highlight the 'By Name' tab and press the **MENU** key.

The following options are available from the 'By Name' submenu of the 'Wpt' tab:

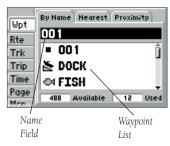
- New Waypoint creates a new waypoint (see page 32).
- Delete Waypoint deletes selected waypoint from list and any route in which it was used.
- Delete by Symbol deletes waypoints that use the same symbol.
- Delete All deletes all waypoints from the unit.



Once a waypoint is deleted from the list, it cannot be recovered from the unit. It is advisable to back up important waypoints to a computer using an optional PC cable and interface software or write them down manually.

Reference

Waypoint Lists



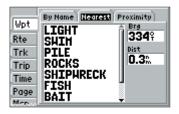
You can also search for a waypoint by name:

- 1. Highlight the name field and press ENTER/MARK.
- 2. Use the ARROW KEYPAD to select the first letter of the name.
- 3. Move to the RIGHT and enter the second letter if you do not see it on the list below.
- 4. Repeat this until the name appears. Press ENTER/MARK when you see the name.
- 5. Highlight the name on the list and press ENTER/MARK again to review the waypoint.

Waypoint Lists



Delete Waypoint Confirmation Window



Nearest Waypoint List

To delete an individual waypoint from the list:

- 1. Use the **ARROW KEYPAD** to highlight the waypoint to be deleted and press **MENU**.
- 2. Highlight 'Delete Waypoint' and press ENTER/MARK.
- 3. With 'OK' highlighted, press the **ENTER/MARK** key to confirm the deletion.

To delete waypoints by symbol:

- From the 'By Name' tab, highlight the waypoint to be deleted and press the MENU key, then select 'Delete By Symbol' and press ENTER/MARK.
- Use the ARROW KEYPAD to highlight the symbol of the waypoint(s) to be deleted and press ENTER/MARK.
- 3. Press ENTER/MARK to confirm. You may also choose 'Cancel' or press QUIT to stop the deletion.

To delete all waypoints or the entire 'By Name' waypoint list:

- 1. Press the **MENU** key to select the options window.
- 2. Use the **ARROW KEYPAD** to highlight 'Delete All' and then press **ENTER/MARK**.
- 3. Highlight the 'OK' prompt and press **ENTER/MARK** to confirm.

Nearest Waypoints List

The 'Nearest' submenu of the Waypoint tab shows the ten nearest waypoints that are within 200 nautical miles of your present position. The nearest waypoints are continuously updated to your present position, and provide quick access to the closest points of safety in emergency situations. The bearing and distance from your present position to each nearest waypoint is displayed in the fields to the right of the list.

To scroll through and review the 'Nearest' waypoint list:

- With the ARROW KEYPAD, highlight the 'Wpt' tab from the Main Menu page and then highlight 'Nearest'.
- 2. Use the **ARROW KEYPAD** to scroll through the list in the desired direction.
- 3. Press **ENTER/MARK** to review the highlighted waypoint on the 'Waypoint Edit' page. See page 33-34 for detailed information on reviewing and editing waypoints.
- 4. With 'Next' highlighted, press **ENTER/MARK** to return to the list. The field highlight will automatically move to the next waypoint in the list. You can review details of each waypoint in any waypoint list by pressing **ENTER/MARK** repeatedly.

Proximity Waypoint List

The 'Proximity' submenu of the Waypoint tab lets you define an alarm circle around a stored waypoint position, and can be used to help you avoid reefs, rocks or restricted waters. Up to ten waypoints may be listed, with a maximum alarm radius of 99.99 nautical miles, statute miles or kilometers. If a proximity alarm circle overlaps with an existing alarm circle, a 'Proximity Overlaps Another Proximity Waypoint' message will appear each time the unit is turned on. If you enter an alarm circle overlap, you will only be alerted to the closest proximity waypoint.

To display the menu options for the 'Proximity' waypoint submenu:

1. Using the **ARROW KEYPAD**, highlight the 'Proximity' tab and press the **MENU** key.

The following options are available from the 'By Name' submenu of the 'Wpt' tab:

- Add Waypoint adds a waypoint to the proximity list from the waypoint list.
- $\bullet\,$ Clear Alarm removes selected waypoint from proximity list.
- Clear All removes all waypoints from proximity list.

Reference

Waypoint Lists

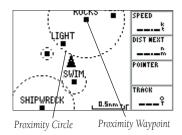


Proximity Waypoint List



Proximity Tab Options Menu

Waypoint Lists



A dashed circle will appear showing the alert boundaries for proximity waypoints.

To add a proximity waypoint:

- On the Proximity submenu, press MENU. Use the ARROW KEYPAD to highlight 'Add Waypoint' and press ENTER/MARK. The 'Select Waypoint' screen appears.
- To select a waypoint from the lists, use the ARROW KEYPAD to highlight the desired waypoint from the 'By Name' or 'Nearest' waypoint lists. The Waypoint Review page will appear for the selected waypoint. With 'OK' highlighted, press ENTER/MARK to confirm.
 - To select a waypoint from the map, press **MENU**. With 'Select From Map' highlighted, press **ENTER/MARK**. Use the zoom **IN** and **OUT** buttons and the **ARROW KEYPAD** to highlight a waypoint and press **ENTER/MARK**.
- 3. The waypoint will be added to the Proximity list and the distance field will now be highlighted.
- Press ENTER/MARK to begin entry of the proximity radius and use the ARROW KEYPAD to enter a distance value (to 99.99 units). Press ENTER/MARK when finished.

To turn proximity alarms on or off:

- Use the ARROW KEYPAD to highlight the field below "Proximity Alarm" and press ENTER/MARK.
- 2. Select the desired 'On' or 'Off' setting and press **ENTER/MARK**.

To clear one or all proximity waypoint(s) from the list:

- 1. Use the **ARROW KEYPAD** to highlight the proximity waypoint to clear and then press **MENU**.
- 2. To clear a single alarm, highlight the 'Clear Alarm' field and press ENTER/MARK.
- 3. To clear all proximity waypoints, select the 'Clear All' option and press ENTER/MARK.
- 4. Use the **ARROW KEYPAD** to highlight the 'OK' prompt and press **ENTER/MARK** to confirm.

Going to a Destination

Using the **NAV/MOB** key, the GPS 152 provides four ways to navigate to a destination: Go To Waypoint, Follow Route, Follow Track (TracBack), and MOB (Man OverBoard) navigation. Once you are actively navigating, you will see a straight line that always runs from your current location to the destination. The easiest method is the 'Go To' function, which lets you select a destination waypoint and quickly sets a direct course from your present position. If you have a waypoint highlighted in a list or on the map, 'Go To <waypoint name>' will appear in addition to 'Go To Waypoint'. The 'Go To' function can be accessed from a list of waypoints or graphically from the map display.

To activate a 'Go To' from the waypoint list:

- 1. Press the **NAV/MOB** key.
- 2. Use the **ARROW KEYPAD** to highlight 'Go To Waypoint' and press **ENTER/MARK**.
- 3. To select a waypoint from the waypoint lists, use the **ARROW KEYPAD** to highlight either the 'By Name' or 'Nearest' tab, select a waypoint and press **ENTER/MARK**. With 'Go To' highlighted on the Waypoint Review page, press **ENTER/MARK** to confirm.

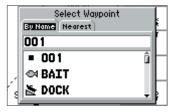
To select a waypoint from the map, press **MENU**. With 'Select From Map' highlighted, press **ENTER/MARK**. Use the zoom **IN** and **OUT** buttons and the **ARROW KEYPAD** to select a waypoint, then press **ENTER/MARK**.

To stop navigation:

- 1. Press the **NAV/MOB** key.
- 2. Use the **ARROW KEYPAD** to highlight 'Stop Navigation' and press **ENTER/MARK**.

Reference

Going to a Destination



Choose a waypoint from the 'By Name' or 'Nearest' tab lists.



Highlight 'Stop Navigation' and press ENTER/MARK to stop navigating.